UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/090,404 | 03/04/2002 | Henry Esmond Butterworth | ARC920010105US1 | 4855 |

7590          03/02/2011

John L. Rogitz
Rogitz & Associates
Suite 3120
750 B Street
San Diego, CA 92101

| EXAMINER |
|---|
| CLOUD, JOIYA M |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2444 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 03/02/2011 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/090,404 | BUTTERWORTH ET AL. |
| | Examiner | Art Unit |
| | Joiya M. Cloud | 2444 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☒ Responsive to communication(s) filed on <u>*07 December 2010*</u>.
2a)☐ This action is **FINAL**.     2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-33* is/are rejected.
7)☒ Claim(s) *34-41* is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a)☐ All   b)☐ Some * c)☐ None of:
         1.☐ Certified copies of the priority documents have been received.
         2.☐ Certified copies of the priority documents have been received in Application No. _____ .
         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____ .
4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____ .

## DETAILED ACTION

This action is responsive to communications filed 12/07/2010. Claims 1-41 are

PENDING.

## Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 12/07/2010 has been entered.

## Allowable Subject Matter

Claims 34-41 are objected to as being dependent upon a rejected base claim, but would

be allowable if rewritten in independent form including all of the limitations of the base claim

and any intervening claims.

## Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

Claim 9 recites "returning the most desirable solution responsive to a determination that it is fully connected." The claim is unclear as to what "it" is?

Claims 10-17 are rejected under 35 U.S.C. 112, second paragraph. Claim element of exemplary claim 10 recites "means for receiving...means for determining" is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function. Examiner notes that it only **appears** Applicant's node 12 (see instant specification, Figure 4) is the corresponding structure for the means disclosed in independent claim 10, however the specification lacks any explicit definition of the node being tied to hardware as one of ordinary skill in the art can reasonably interpret a "node" to be software. Applicants has pointed to page 6, lines 3 of the instant specification noting "computers are hardware" (see paragraph 2 of Remarks filed 08/23/2010), however Examiner submits that merely pointing to a computer as hardware is **insufficient** in establishing a showing of the corresponding structure performing the "means for receiving state changes in the system and means for determining the optimum membership...," as recited in the exemplary claim 10. For a computer-implemented means-plus-function claim limitation that invokes 35 U.S.C. 112, sixth paragraph, the corresponding structure is required to be **more than simply a general purpose computer or microprocessor.** For instance, merely referencing to a general purpose computer with appropriate programming without providing any detailed explanation of the appropriate programming, or simply reciting software without providing some detail about the means to accomplish the function, is not an adequate disclosure of the corresponding structure to

satisfy the requirements of 35 U.S.C. 112, second paragraph. As such, the rejection is hereby

maintained. Furthermore, the claim is drawn towards "a program on the program storage

device..." followed by means plus function language. It is unclear how such structure identified

by means plus function language can comprise hardware as part of a program.

Likewise, exemplary claim 17 recites "means for iteratively determining plural solutions;

means for determining which solution is most desirable...means for returning the most desirable

solution..."

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus

function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it clearly links or

associates the corresponding structure, material, or acts to the claimed function without

introducing any new matter (35 U.S.C. 132(a)); or

(c) State on the record where the corresponding structure, material, or acts are set forth in

the written description of the specification that perform the claimed function. For more

information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Examiner advises Applicant to specifically point out the algorithm to perform the

function of the means plus function language. The written description of the specification must

at least disclose the algorithm that transforms the general purpose microprocessor to a special

purpose computer programmed to perform the disclosed algorithm that performs the claimed

function. See MPEP 2181 for examples.

## Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claim 1-33** are rejected under 35 U.S.C. 102(e) as being clearly anticipated by **Elliot**

**(US Patent No. 6,963,747 B1).**

**As per claim 1**, Elliot teaches plural computer nodes **(Figure 4a)**, each node:

determining a system topography; determining an optimum nodal membership based on the

topography **(col. 5, lines 64-col. 6, line 7, determination of a schedules based on topology and**

**node traffic information across the network of routers and traffic sources and endpoints**

**via the mapping information)**, the determining of an optimum nodal membership at each of the

plural nodes converging with the determining of an optimum nodal membership on each of the

other nodes of the plural nodes in the computer system with each of the plural nodes arriving at

the same optimum nodal membership without having to transmit optimization solutions to the

other nodes being used by all nodes in the system **(col. 9, lines 25-41, where nodes compute**

**their own schedules independently, where the nodes may independently harmonize their**

**schedules).**

As per claim 2, Elliot teaches comprising more than two nodes, the determining of an optimum nodal membership being based on a seed, the seed being the same for each node such that each node uses the same seed as every other node in determining the optimum membership, such that the optimum membership arrived at by each node is the same membership arrived at by every other node **(Referring again to FIG. 3, initial schedules for the nodes are created at 202. The initial-schedule for a node consists of a string of 1's (denoting when the node may transmit) followed by a string of 0's (denoting when the node must be silent). The string lengths for the schedules of the network nodes may generally be the same and the strings may be long. As an example, the nodes in the network may have a schedule of, say, 10,000 bits long.).**

As per claim 3, Elliot teaches wherein determining an optimum membership is undertaken using a randomized simulated annealing technique **(col. 1, lines 65-col. 2, lines 8 and col. 9, lines 10-20).**

As per claim 4, Elliot teaches wherein each node includes a link state module undertaking the determining a topology and an optimization module undertaking the determining an optimum membership, the link state module sending the topology to the optimization module **(col. 5, lines 64-col. 6, lines 2).**

As per claim 5, Elliot teaches wherein the link state module at each node communicates with at least one link state module at another node in the system **(col. 5, line 64-col. 6, lines 8).**

**As per claim 6**, Elliot teaches wherein the link state module communicates with a database of links and nodes **(col. 5, line 64-col. 6, lines 8).**

**As per claim 7**, Elliot teaches wherein elements in the database are periodically refreshed **(col. 3, lines 60-col. 4, lines 10, updating on schedule information).**

**As per claim 8**, Elliot teaches wherein each node includes an event manager receiving the optimum membership from the optimization module, the optimum membership being used by the event manager during system operations **(col. and col. 5, lines 55-65).**

**As per claim 9**, Elliot teaches wherein the method acts undertaken by the optimization module further include: iteratively determining plural solutions **(see claim 5 and col. 5, lines 1-5, iteratively harmonizing the created schedules until the predetermined level of transmit collisions is obtained)**; determining which solution is a most desirable solution **(col. 5, lines 1-5)**; returning the most desirable solution responsive to a determination that it is fully connected **(col. 4, lines 29-39)**; otherwise returning a next most desirable solution responsive to a determination that the next most desirable solution is fully connected **(col. 5, lines 1-5).**

**As per claim 10-17**, claims 10-17 recites substantially the same limitations as claims 1 and 3-9, but in device rather than system form. Therefore, the rejection for claims 1 and 3-9 applies equally as well to claim 10-17.

**As per claims 18-24**, claims 18-24 recites similar limitations as claims 1-5 and 8-9. Therefore, the rejection for claims 1-5 and 8-9 applies equally as well to claims 18-24.

As per claims **25-32**, claims 25-32 recites similar limitations as claims 1-5, and 8-9. Therefore, the rejection for claims 1-5 and 8-9. applies equally as well to claims 25-32.

As per claim **33**, Elliot teaches a method for providing plural nodes in a system of nodes with a membership that is identical for each node, comprising: providing topology information **(col. 5, lines 64-col. 6, line 7, determination of a schedules based on topology and node traffic information across the network of routers and traffic sources and endpoints via the mapping information)**; providing a respective version of a node membership optimization module to each of plural views, wherein each version of the node membership optimization module determines a node membership and wherein for each view, a view containing a respective local node is selected, the nodes subsequently using the node membership **(col. 7, lines 50-63)**.

## CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joiya Cloud whose telephone number is 571-270-1146. The examiner can normally be reached Monday to Friday from on 7:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3922. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**JMC**
**Art Unit 2444**                          **February 22, 2011**

**/Peling A Shaw/**

**Primary Examiner, Art Unit 2444**